

**RHIC QLI December 2003 - Fact Sheet**

Date:	Reference ID	B	Y	QLI	Technical Notes	Causes and Repairs	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
3-Dec	MS-001	1		9b-ps1	Ramping from Injection to Park without finishing the Hysteresis loop to the top.	Ramp Wrong			
3-Dec	MS-002		1	9b-ps1	Ramping from Injection to Park without finishing the Hysteresis loop to the top.	Ramp Wrong			
3-Dec	MS-003		1	6b-ps1	Controls Group	controls			
3-Dec	MS-004	1		4b-time.B	Software Testing of the Mains	Maintenance			
3-Dec	MS-005		1	6b-ps1	Controls Group	controls			
3-Dec	MS-006	1		4b-time.B	Software Testing of the Mains	Maintenance			
3-Dec	MS-007		1	4b-time.B	Software Testing of the Mains	Maintenance			
3-Dec	MS-008		1	6b-ps1	Controls Group	controls			
3-Dec	MS-009	1		9b-ps1	Ramping from Injection to 1st, breaking hysteresis	Ramp Wrong			
3-Dec	MS-010	1		2b-ps1	Controls Group	controls			
3-Dec	MS-011		1	2b-ps1	Controls Group	controls			
4-Dec	MS-012	1		10a-ps3.A	Permit Carrier Link	controls			
4-Dec	MS-013	1		4b-time.A	Maintenance	Maintenance			
4-Dec	MS-014	1		2b-ps1	b2-dhx power supply CROWBAR, stuck at zero while machine was ramping then shot up to 718amps. K2 relay at fault	Current Reg Card			
4-Dec	MS-015		1	2b-ps1	Yellow Main Dipole Cur Reg Fault	Maintenance			
4-Dec	MS-016	1		10a-ps3.B	B10DQPSW contactor stuck in the closed position, found release coil open circuit.	Quench Switch Main, release Coil open circuit.			
4-Dec	MS-017		1	4b-time.B	Yellow Main Dipole Cur Reg Fault	Maintenance			
4-Dec	MS-018	1		4b-time.B	Blue Quad Main PS Regulator Error	Maintenance			
4-Dec	MS-019	1		4b-time.B	Blue Quad Main PS Regulator Error	Maintenance			
4-Dec	MS-020	1		4b-time.B	Blue Quad Main PS Regulator Error	Maintenance			
5-Dec	MS-021		1	6b-ps1	On going problem with the permit carrier	controls			
5-Dec	MS-022		1	6b-ps1	On going problem with the permit carrier	controls			
5-Dec	MS-023	1		9b-ps1	Quench occurred while ramping to Park	Ramp Wrong			
5-Dec	MS-024		1	6b-ps1	Y9DQPSW UPS Fault, PLC interface card needed cleaning of the contacts. Also, the fuse for the safety interlock was found not to be properly seated (not known for how long).	Quench Switch Main, Fuse Fault			
5-Dec	MS-025		1	4b-time.A	y13-qd6-ps put into OFF state to bring down the link for quick current reg card swap of y6-q89-ps	Current Reg Card			
5-Dec	MS-026		1	6b-ps1	Controls permit module	controls			
5-Dec	MS-027	1		4b-time.B	Blue Dipole Main PS Maintenance	Maintenance			
5-Dec	MS-028		1	5b-ps1	Maintenance on the Main Power Supply Software	Maintenance			
5-Dec	MS-029		1	6b-ps1	Permit module work	controls			
5-Dec	MS-030		1	4b-time.B	Yellow Main Dipole work	Maintenance			
5-Dec	MS-031		1	6b-ps1	Permit module work	controls			
5-Dec	MS-032	1		10a-ps3.A	Maintenance of the Dump Switches at 1010	Maintenance			
5-Dec	MS-033		1	2b-ps1	Recovering from maintenance	Maintenance			
5-Dec	MS-034		1	2b-ps1	Recovering from maintenance	Maintenance			
6-Dec	MS-035	1		12a-ps1.A	Maintenance Work	Maintenance			
6-Dec	MS-036		1	4b-time.B	Main Power Supply Software work, Software Changes for fy04	Maintenance related			
7-Dec	MS-037	1		4b-time.B	Main Power Supply Software work, Software Changes for fy04	Maintenance related			
7-Dec	MS-038	1		4b-time.B	Main Power Supply Software work, b-dmain: Reg Error	b-dipole main, Reg Error			
8-Dec	MS-039	1		2b-ps1	b2-dhx-ps current glitches	Ref to MS-042			
8-Dec	MS-040		1	9b-ps1	Off the Hysteresis Loop	Ramp Wrong			
8-Dec	MS-041		1	4b-time.B	Yellow Main Dipole, DC breaker open on the Ramp PS., possible loose connection.	y-dipole main, possible loose connection			
8-Dec	MS-042	1		2b-ps1	b2-dhx power supply	Internal 3 channel isolation amplifier board			
9-Dec	MS-043	1		6b-ps1	6b-qd1 quench detector tripped due to B5QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b5q2	1	1
9-Dec	MS-044		1	4b-time.B	Maintenance on the Yellow Main Dipole Auxiliary contactor of the main DC Contactor.	Maintenance			
9-Dec	MS-045	1		6b-ps1	6b-qd1 quench detector tripped due to B5QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b5q2	1	1

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10-Dec	MS-046	1		6b-ps1	6b-qd1 quench detector tripped due to B5QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b5q2	1	1
12-Dec	MS-047	1		6b-ps1	6b-qd1 quench detector tripped due to B5QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b5q2	1	1
12-Dec	MS-048		1	6b-ps1	Permit Module, Controls Division on going fault.	controls			
12-Dec	MS-049	1		9b-ps1	MCR used the wrong Slow Factor, going off the Hysteresis Loop.	Ramp Wrong			
12-Dec	MS-050		1	6b-ps1	Permit Module, Controls Division on going fault.	controls			
12-Dec	MS-051	1		9b-ps1	MCR accidentally did a "here2last" command instead of a "hereto first" when restoring a corrector, bo10-tv11. This resulted in the 12 Dec 5b-ps1 quench.	Operator Error			
12-Dec	MS-052		1	5b-ps1	MCR accidentally did a "here2last" command instead of a "hereto first" when restoring a corrector, bo10-tv11. This resulted in the 12 Dec 5b-ps1 quench.	Operator Error			
13-Dec	MS-053	1		8b-ps1	8b-qd1 quench detector tripped due to B7QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b7q2	1	1
13-Dec	MS-054		1	4b-time.B	The power supply had a ground current while being ramped to zero by the Blue Recovery Tape.	y-dipole main, Ground Current Fault			
13-Dec	MS-055		1	8b-ps1	8b-qd2 quench detector tripped due to Y8QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	y8q2 & y8q3	1	2
13-Dec	MS-056	1		4b-time.B	Blue main dipole, PFN fault during the down reamp to zero current. Carl is working on the coefficients to prevent this.	b-dipole main, PFN fault			
16-Dec	MS-057	1		8b-ps1	Bi9-qf9, negative 15 volts of the housekeeping supply failed.	Housekeeping Supply			
16-Dec	MS-058	1		4b-time.B	Blue Main Quad PS, Reg Error Fault during the recovery script.	b-quad main, Reg Error			
16-Dec	MS-059		1	4b-time.B	Yellow Main Dipole Ground Current Fault while ramping down from Park to Zero current.	y-dipole main, Ground Current Fault			
16-Dec	MS-060	1		6b-ps1	6b-qd1 quench detector tripped due to B6QFQ3_VT detection of a real magnet quench.	Beam Induced Quench	b6q3	1	1
17-Dec	MS-061		1	6b-ps1	y6-q89 pulled the quench detector	Supply Pulled			
17-Dec	MS-062	1		10a-ps3.A	Maintenance Day 0700 to 1500	Maintenance			
17-Dec	MS-063		1	4b-time.A	Maintenance Day 0700 to 1500	Maintenance			
17-Dec	MS-064	1		4b-time.B	Recovering from maintenance, Blue Main Quad Power Supply, reg Error	Maintenance			
18-Dec	MS-065		1	6b-ps1	Controls working in the field, pulled a connector off a monitoring scope hooked up to the permit module, link came down.	controls			
18-Dec	MS-066	1		9b-ps1	Mains sitting at Injection after coming off Park, next step should be Top energy but MCR ramped back down to Park causing the quench detector (9b-qd1) to trip.	Ramp Wrong			
19-Dec	MS-067		1	8b-ps1	8b-qd2 quench detector tripped due to Y8QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	y8q2	1	1
19-Dec	MS-068	1		6b-ps1	6b-qd1 quench detector tripped due to B5QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b5q2		1
20-Dec	MS-069		1	10a-ps3.A	yo9-qd3-ps error when turned on	Ref to MS-074			
20-Dec	MS-070	1		9b-ps1	Initially pulled for CAS to replace yo8-tq6-qpa, but MCR used the wrong ramp to ramp down and therefore a QLI occurred.	Ramp Wrong			
20-Dec	MS-071		1	7b-ps1	Wrong Ramp, (Ref to MS-070)	Ramp Wrong			
20-Dec	MS-072	1		12a-ps1.A	bo11-qd1-qf fail, no faults.	RESET			
20-Dec	MS-073		1	10a-ps3.A	yo9-qd3-ps error when turned on	Ref to MS-074			
20-Dec	MS-074		1	10a-ps3.A	yo9-qd3-ps error when turned on, Auxiliary Contacts replaced	Auxiliary contacts			
21-Dec	MS-075		1	8b-ps1	QLI due to magnetic coupling between D0 Magnets (Ref to MS-076)	Beam Induced Quench			
21-Dec	MS-076	1		8b-ps1	8b-qd2 quench detector tripped due to Y8QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	y8d0, y8q1, y8q2 & y8q3	1	4
21-Dec	MS-077		1	8b-ps1	While ramping, Yellow Main Quad PS went into oscillation	y-quad main, Oscillation			
21-Dec	MS-078	1		6b-ps1	6b-qd1 quench detector tripped due to B5QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b5q2	1	1
22-Dec	MS-079	1		4b-time.A	Maintenance	Maintenance			
22-Dec	MS-080		1	10a-ps3.A		Maintenance			
22-Dec	MS-081	1		4b-time.B	Recovering from maintenance, Blue Main Quad Power Supply, Reg Watchdog Error	Maintenance			
22-Dec	MS-082		1	4b-time.B	Yellow Main Dipole PFN1 & PFN2 Faults	y-dipole main, PFN			
23-Dec	MS-083		1	4b-time.B	Yellow Main Dipole PFN1 & PFN2 Faults	y-dipole main, PFN			
23-Dec	MS-084		1	4b-time.B	Crash Button pushed, maintenance to locate PFN Faults	Maintenance to find PFN Faults			
23-Dec	MS-085	1		2b-ps1	QLI due to power cycled to the Quench Link Bypass Chassis	Maintenance			
23-Dec	MS-086	1		10a-ps3.B	Quench Recovery program fail	Quench Recovery Program			

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23-Dec	MS-087		1	8b-ps1	8b-qd1 quench detector tripped due to Y7QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	y7q2	1	1
24-Dec	MS-088		1	5b-ps1	Yellow main dipole power supply current glitch, possible DCCT	y-dipole main, current glitch			
24-Dec	MS-089		1	3b-ps1	Yellow main dipole power supply current glitch, possible DCCT	y-dipole main, current glitch			
24-Dec	MS-090		1	7b-ps1	Yellow main dipole power supply current glitch, possible DCCT	y-dipole main, current glitch			
24-Dec	MS-091	1		9b-ps1	Wrong Ramp, Off the Hysteresis Loop.	Ramp Wrong			
24-Dec	MS-092		1	3b-ps1	Yellow main dipole power supply current glitch, possible DCCT	y-dipole main, current glitch			
25-Dec	MS-093		1	3b-ps1	Yellow main dipole power supply current glitch, possible DCCT	y-dipole main, current glitch			
25-Dec	MS-094	1		2b-ps1	Faulty Quench Signal told the quench detector to trip	Faulty Quench Signal			
25-Dec	MS-095	1		2b-ps1	Faulty Quench Signal told the quench detector to trip, possible low voltage drop in the housekeeper inside the node card chassis that powers up the beam permit bypass chassis	Faulty Quench Signal			
25-Dec	MS-096	1		6b-ps1	6b-qd1 quench detector tripped due to B5QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	b5q2	1	1
25-Dec	MS-097		1	7b-ps1	Yellow main dipole power supply current glitch, possible DCCT	y-dipole main, current glitch			
27-Dec	MS-098	1		9b-ps1	Ref to MS-099	controls			
27-Dec	MS-099		1	9b-ps1	Fan Fault in alcove 9B rack, caused the circuit breaker to trip, taking down the power to the rack, loosing communication. No FEC/DSP HS	controls			
27-Dec	MS-100		1	8b-ps1	8b-qd2 quench detector tripped due to Y7QFQ2_VT detection of a real magnet quench.	Beam Induced Quench	y7q2	1	1
28-Dec	MS-101		1	10a-ps3.B	Major Power Dip	Power Dip			
28-Dec	MS-102	1		4b-time.B	Recovering from Power Dip, Carl Schultheiss working from home, dropped the link to recover after the power dip that consisted of resetting all 4 Phase Lock Loops.	b-y mains, Phase Lock Loops out of Lock			
28-Dec	MS-103	1		10a-ps3.B	Recovering from power dip.	Quench Recovery Program			
29-Dec	MS-104	1		4b-time.A	bi4-qd2 to OFF to bring down the blue link for maintenance day	Maintenance			
29-Dec	MS-105		1	4b-time.A	yi3-qf7 front disconnect accidentally put in the off position while locking down the blue supplies for maintenance day.	Maintenance			
29-Dec	MS-106	1		4b-time.B	Recovering from Maintenance Day, Blue Main Quad PS stops the recovery with a Reg Error	Maintenance Recovery			
29-Dec	MS-107	1		4b-time.B	Recovering from Maintenance Day, Blue Main Quad PS stops the recovery with a Reg Error	Maintenance Recovery			
29-Dec	MS-108	1		10a-ps3.A	Recovering from Maintenance day, bo10-dhx causes the recovery to fail, no faults indicated.	Maintenance Recovery			
31-Dec	MS-109		1	4b-time.B	Yellow Main Dipole PS PFN1 and PFN2 Faults during the ramp up from Injection to Store. (tripped a 1676 amps)	y-dipole main, PFN			
31-Dec	MS-110		1	10a-ps3.A	User invoked during the recovery program. Yi10-qf9-ps error upon turn on. yi10-qf9-ps, possible aux contacts	Auxiliary contacts			
Total Counts:			54	56				13	18
Total Quench Events:			110						
Beam Induced Quenches:			13						
Real Magnet Quenches:			18						

Date:	Reference ID	B	Y	QLI	Technical Notes	Causes and Repairs	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-Jan	PR-001		1	4b-time.B	Link pulled by YD Ground Current Trip. Postmortem shows ground current on the power supply and quench grounds. I don't understand the current on the quench ground. I watched the ground currents during the next ramp, they looked good. I will have to watch this, may instrument some points in the circuit on the next maintenance day. <a href="#">Ganetis</a> It looks like the positive quench protection crowbar SCR triggered on the down ramp. I see no large ps voltages that could cause the self trigger circuit to fire. <a href="#">Ganetis</a>	y-dipole main ground fault			
1-Jan	PR-002		1	12a-ps1.A	blue quench link trip was caused by 12a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B11QFQ2_VT. The beam permit tripped .040 sec. before the blue quench link. There was a real magnet quench at b11q2. There were a high loss at b11-lm1. There is now 14 beam induced quench link trips for this run. <a href="#">Ganetis</a>	Beam Induced Quench	b11q2	1	1
1-Jan	PR-003		1	12a-ps1.A	blue quench link trip was caused by b011-qf8-ps when it was turned on during quench recovery. The ps had an error fault. The aux. contact will have to be replaced during the next maintenance period. <a href="#">Ganetis</a>	Auxiliary Contactor			
2-Jan	PR-004		1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped 70 msec. before the quench link. There were two real quench at y8q2 and y8q3. There was high beam loss at g8-lm1 and y8-lm3.1. There is now 15 beam induced quenches for this run. Also all three y8 tqs had bus quenches about 65 sec after the q2 and q3 quenched. <a href="#">Ganetis</a>	Beam Induced Quench	y8q2, y8q3, y8tq4, y8tq5, y8tq6	1	5
3-Jan	PR-005		1	4b-time.B	yellow quench link trip was caused by yellow main dipole ps. The ps had a ground fault. The ground fault was caused by the positive quench protection crowbar SCR suddenly conducting. <a href="#">Ganetis</a>	y-dipole main ground fault			
3-Jan	PR-006		1	4b-time.B	blue quench link trip was caused by blue main dipole ps. The ps had a ground fault. The ground fault was caused by both quench protection crowbar SCR suddenly conducting. This caused a sudden decrease in the ramp module current. This is the first time I have seen this fault on the blue ps. <a href="#">Ganetis</a>	b-dipole main ground fault			
3-Jan	PR-007		1	4b-time.B	yellow quench link trip was caused by yellow main dipole ps. The ps had a PFN1 fault and PFN2 fault. <a href="#">Ganetis</a>	y-dipole main PFN1 & PFN2 Fault			
3-Jan	PR-008		1	4b-time.A	blue quench link trip was caused by a fan fault in bo3-qd7-qp. (quench protection assembly) <a href="#">Ganetis</a>	Ref to PR-009			
3-Jan	PR-009		1	4b-time.A	blue quench link trip was caused by a fan fault in bo3-qd7-qp. (quench protection assembly) This is the second time for this fault. <a href="#">Ganetis</a>	Fan fault			
4-Jan	PR-010		1	4b-time.B	yellow main dipole ps had pfn1 and pfn2 faults. <a href="#">Ganetis</a>	y-dipole main PFN1 & PFN2 Fault			
4-Jan	PR-011		1	4b-time.B	yellow dipole main tripped the link on a ground current fault. <a href="#">Don Bruno</a> The ground current was caused by the positive quench protection crowbar SRC turning on. <a href="#">Ganetis</a>	y-dipole main ground fault			
4-Jan	PR-012		1	4b-time.B	The blue dipole ground current trip was caused by both positive and negative quench protection crowbar SCR turning on. <a href="#">Ganetis</a>	b-dipole main ground fault			
5-Jan	PR-013		1	4b-time.B	yellow quench link trip caused by yellow main dipole p.s. . The p.s. had a ground fault. The ground fault was caused by the positive quench protection crowbar SCR turning on. <a href="#">Ganetis</a>	y-dipole main ground fault			
5-Jan	PR-014		1	4b-time.A	Brought both Links down by setting b-qtrim and y-qtrim to Off once main current levels had reached zero amps for work on the Main Power Supplies. <a href="#">Heppner</a>	Maintenance			
5-Jan	PR-015		1	4b-time.A	Brought both Links down by setting b-qtrim and y-qtrim to Off once main current levels had reached zero amps for work on the Main Power Supplies. <a href="#">Heppner</a>	Maintenance			
5-Jan	PR-016		1	4b-time.B	The Yellow Dipole was instrumented to gain some understanding of the ground current trips that have been occurring. Data will be automatically collected on time B trips of the Yellow Dipole. Points were also brought out on the Blue Dipole, but these are not presently monitored. This trip was deliberate and tested the data acquisition system. <a href="#">CS</a>	Recover from Maintenance			
6-Jan	PR-017		1	6b-ps1	blue quench link trip was caused by 6b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped after the quench link. There was one real quench at b5q2. There was low beam loss at g5-lm1 of approx. 80 rads/hr that lasted for many seconds. There is now 16 beam induced quenches for this run. <a href="#">Ganetis</a> [ quench ]	Beam Induced Quench	b5q2	1	1
6-Jan	PR-018		1	12a-ps1.A	Blue quench link trip was caused by bo11-qf8-ps when the p.s. was being turned on. The p.s. had an error fault. The Aux. contacts on this p.s. need to be replaced. <a href="#">Ganetis</a>	Auxiliary Contactor			
6-Jan	PR-019		1	5b-ps1	The yellow quench link trip at 11:12:25.26 is not recorded in the e-log. This trip was caused by a dip in the current signal of the yellow main quad p.s. Carl S. was investigating something in the Output Circuit Compartment at that time and inadvertently caused the current signal to change. <a href="#">Ganetis</a> [ quench ]	y-quad main, current dip			
6-Jan	PR-020		1	12a-ps1.A	blue quench link trip was caused by 12a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B11QFQ2_VT. The beam permit tripped 55 msec. before the quench link. There were two real quench at b11q2 and b10q4. There was high beam loss at g11-lm1 and b10-lm4. There was moderate beam loss at b11-lm3.1. There is now 17 beam induced quenches for this run. <a href="#">Ganetis</a> [ quench ] Additional Note: BLM's indicated a poor beam dump had occurred.	Beam Induced Quench	b11q2, b10q4	1	2
6-Jan	PR-021		1	4b-time.B	yellow quench link trip was caused by yellow main dipole ps. The ps had a ground fault. The ground fault was caused by the positive quench protection crowbar SCR suddenly conducting. <a href="#">Ganetis</a> [ quench ]	y-dipole main ground fault			
7-Jan	PR-022		1	4b-time.A	Brought down both links by placing b-qtrim and y-qtrim to Off condition after Main Current levels had reached zero for maintenance day. <a href="#">Heppner</a> [ rhic ]	Maintenance			
7-Jan	PR-023		1	4b-time.A	Brought down both links by placing b-qtrim and y-qtrim to Off condition after Main Current levels had reached zero for maintenance day. <a href="#">Heppner</a> [ rhic ]	Maintenance			
7-Jan	PR-024		1	4b-time.B	Recovering from Maintenance, Testing on the Blue Mains, Permit not on, still down from morning.	Maintenance Recovery			
7-Jan	PR-025		1	12a-ps1.A	blue quench link trip was caused by 12a-qd1-quench detector. The beam permit tripped after the quench link. The quench detector tripped because of a jump in the current signal in b12-dx-ps. There was not a real change in current signal because there was no change in magnet voltage as seen on the quench detector. There were changes in the voltage signal on the postmortem plots but no corresponding change in magnet voltage. The problem looks like a buffer card problem. <a href="#">Ganetis</a>	Internal 3 channel isolation amplifier board			

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8-Jan	PR-026		1	10a-ps3.A	The yellow quench link trip looks like a failure in the link itself. Timing resolver data shows the output of the link dropping out first before anything else in this bldg. I have asked Wing to look at this to confirm <a href="#">Xianetis</a> (Later, after PR-027 and PR-028 Triggered the reset quench link event (evCh.4b-evt.239) via the trigger on the permit pet page and the yellow quench link was established <a href="#">Rob</a> Permit Module A at 1010, reset)	Controls			
8-Jan	PR-027		1	10a-ps3.A	W. Louie reported that the blue QLI occurred when Support was investigating the permit module situation in Building 1010A. <a href="#">jak</a>	Trouble Shooting (Ref to PR-026)			
8-Jan	PR-028		1	10a-ps3.B	The yellow main quad did not turn on during the quench recovery that was run at 0230. Running the quench recovery again. <a href="#">jak</a> Permit Link was in the trouble shooting state. TAPE drops the link and starts the recovery from the known state. <a href="#">Louie</a>	Trouble Shooting (Ref to PR-026)			
8-Jan	PR-029		1	10a-ps3.B	The yellow quench link recovery did not bring up the yellow main quad again when the script was utilized at 0242. <a href="#">Carl</a> was contacted and he had to send the reset command to the yellow quad. <a href="#">jak</a>	Yellow Main Quad Recovery			
8-Jan	PR-030		1	2b-ps1	Blue Link was in an unknown state. Manually drops the link by setting the 1002B-Bypass bit to logic low put the Permit system back to a known state. <a href="#">Louie</a>	Node Card Software			
8-Jan	PR-031		1	10a-ps3.A	blue quench link trip was caused by 10a-qd1-quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped 55 msec. before the quench link. There were two real quench at b11q2 and b10q4. There was high beam loss at b10-lm4. There was moderate beam loss at g11-lm1. There is now 18 beam induced quenches for this run. <a href="#">Ganetis</a> [ <a href="#">quench</a> ]	Beam Induced Quench	b11q2, b10q4	1	2
10-Jan	PR-032		1	10a-ps3.A	blue quench link trip was caused by 10a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped .198 sec. before the blue quench link. There was a real magnet quench at b10q4. There were high losses at b10-lm4. There are now 19 beam induced quench link trips for this run. <a href="#">Ganetis</a>	Beam Induced Quench	b10q4	1	1
11-Jan	PR-033		1	10a-ps3.A	blue quench link trip was caused by 10a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped .139 sec. before the blue quench link. There was a real magnet quench at b10q4. There was a high loss at b10-lm4. There is now 20 beam induced quench link trips for this run. Is this high beam loss due to a problem with the abort system, is there too much de-bunched beam or are the intensities so high that a normal abort is now causing a quench? <a href="#">Xianetis</a>	Beam Induced Quench	b10q4	1	1
11-Jan	PR-034		1	6b-ps1	blue quench link trip was caused by 6b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped after the blue quench link. There was a real magnet quench at b5q2. There was a moderate beam loss at b5-lm=3.1 and g5-lm1. There is now 21 beam induced quench link trips for this run. <a href="#">Ganetis</a>	Beam Induced Quench	b5q2	1	1
12-Jan	PR-035		1	4b-time.B	This QLI was due to the yellow main dipole. The PET page showed that the flat-dmain indicated <a href="#">dcur Cur 2</a> fault. The Postmortem plot for the yellow d-main is below. This was not a Beam induced event. The beam had been aborted seven minutes before the mains ramped. (We had to reset cfe-7a-ps2 between dumping the beam and ramping <a href="#">jak</a> )	y-dipole main, glitch when ramping down			
13-Jan	PR-036		1	4b-time.A	15:58 Brought down both links by turning b-qtrim and y-qtrim to Off once Current levels where at zero for maintenance. <a href="#">heppner</a> [ <a href="#">rhic</a> ]	Maintenance			
13-Jan	PR-037		1	4b-time.A	15:58 Brought down both links by turning b-qtrim and y-qtrim to Off once Current levels where at zero for maintenance. <a href="#">heppner</a> [ <a href="#">rhic</a> ]	Maintenance			
15-Jan	PR-038		1	12a-ps1.A	Blue quench link trip was caused by the 12a-qd1 quench detector. The beam permit tripped after the quench link. The quench detector tripped because of a sudden decrease in the current signal in b12-dx-ps. There were changes in the voltage signal on the postmortem plots and a small change in magnet voltage. There were no real magnet quenches. <a href="#">Ganetis</a> .	b12-dhX sudden current change			
16-Jan	PR-039		1	6b-ps1	Blue quench link trip was caused by 6b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped after the quench link. There was one real quench at b5q2. There was low beam loss at g5-lm1 of approximately 170 rads/hr that lasted for a few seconds. There were no corrector ps trips before the magnet quenched. (There were some alarms but they were due to wrong WFG readback values.) There is now 22 beam induced quenches for this run. <a href="#">Ganetis</a>	Beam Induced Quench	b5q2	1	1
16-Jan	PR-040		1	10a-ps3.A	Blue quench link trip was caused by b19-qd6-ps when the p.s. was being turned on. The p.s. had an error fault. The Auxiliary contacts on this p.s. need to be replaced. <a href="#">Ganetis</a>	Auxiliary Contactor			
17-Jan	PR-041		1	10a-ps3.A	The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped .135 sec. before the blue quench link. There was a real magnet quench at b10q4. There was a high loss at b10-lm4. There is now 23 beam induced quench link trips for this run. Is this high beam loss due to a problem with the abort system, is there too much de-bunched beam or are the intensities so high that a normal abort is now causing a quench? <a href="#">Ganetis</a>	Beam Induced Quench	b10q4	1	1
17-Jan	PR-042		1	12a-ps1.A	b12-dh0-qd had a problem with its qpa controller card. First I asked CAS (Charles and Joe C) to cycle the AC power to the qpa but that did not fix the problem. I had them go ahead and swap the qpa controller card after that. This fixed the problem with b12-dh0-qd. <a href="#">Don Bruno</a>	b12-dh0-qpa controller card fail			
17-Jan	PR-043		1	10a-ps3.A	blue quench link trip was caused by b10-qd7-ps when it was turned on during quench recovery. The ps did not show an error fault. The problem could be cabling between the QPA and ps. <a href="#">Ganetis</a>	b10-qd7ps, possible cabling between QPA and PS.			
20-Jan	PR-044		1	10a-ps3.A	Power Supply work, warm magnet. Don pulled the link at b19-qf9 to off.	Don pulled the link at b19-qf9 to off.			
20-Jan	PR-045		1	2b-ps1	Power supply work, warm magnet. Node card chassis that serves the blue above also services the yellow.	Node Card Chassis, loose connection			
20-Jan	PR-046		1	12a-ps1.A	b12-dhX-ps voltage dropped while ramping to Store Energy. This caused the quench detector to trip causing the DX Heaters to fire.	Power Supply Induced Quench	B11DHX & B12DHX		2
20-Jan	PR-047		1	4b-time.A	While MCR had to wait for cryo to recover from the DX Heaters, PR-046, we were allowed to replace the internal 3 channel isolation amplifier board as this had been seen on a previous supply (b2-dhX) as a fix.	Internal 3 channel isolation amplifier board			
21-Jan	PR-048		1	4b-time.A	7:20 Called MCR to ramp supplies to zero current. Once at zero currents, put b-qtrim and y-qtrim to OFF state to bring down both links for maintenance day. <a href="#">Heppner</a> [ <a href="#">rhic</a> ]	Maintenance			
21-Jan	PR-049		1	4b-time.A	7:20 Called MCR to ramp supplies to zero current. Once at zero currents, put b-qtrim and y-qtrim to OFF state to bring down both links for maintenance day. <a href="#">Heppner</a> [ <a href="#">rhic</a> ]	Maintenance			
21-Jan	PR-050		1	8b-ps1	Software changes taking place.	Maintenance Recovery			

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21-Jan	PR-051		1	6b-ps1	Techs were working on the Permit Module at 1006B had pulled the link to add another instrumentation T to the already existing monitoring in place.	Maintenance Recovery			
21-Jan	PR-052		1	4b-time.B	15:17:The blue link came down because we forgot to turn on the blue main dipole PFN circuit breakers. This is for the blue quench link that occurred at 14:57Don Bruno	Maintenance Recovery			
21-Jan	PR-053		1	4b-time.B	15:22:The blue link came down because we forgot to turn on the blue main dipole PFN circuit breakerDon Bruno	Maintenance Recovery			
21-Jan	PR-054		1	1b-ps1	00:45 yellow quench link trip was caused by 1b-qd1 quench detector. There was no quench detector data for this trip because of a communication problem between the quench detector FEC and the quench detector server. There were some changes in the main quad current but I cannot determine if this was the cause of the trip. The beam permit tripped after the yellow quench linkGanetis	Undetermined			
21-Jan	PR-055		1	1b-ps1	00:55 blue quench link trip was caused by 1b-qd1 quench detector. There was no quench detector data for this trip because of a communication problem between the quench detector FEC and the quench detector server. There were some changes in the main quad current but I cannot determine if this was the cause of the trip. The blue quench link tripped .697 sec. after the yellow quench link. The communications between the quench detector server and the FEC is restored. Ganetis	Undetermined			
22-Jan	PR-056		1	4b-time.A	One Hour scheduled maintenance, Techs brought down the link due to hardware connections added for monitoring purposes.	Maintenance			
22-Jan	PR-057		1	4b-time.A	One Hour scheduled maintenance, Techs brought down the link due to hardware connections added for monitoring purposes.	Maintenance			
22-Jan	PR-058		1	4b-time.B	The Blue Dipole tripped on an overcurrent on OCC SCR 1-1. The channel measured 33% higher than the other channels in the bank at flattop current; it was determined it was a slope error. This channel was recalibrated. The channel will be examined at the next maintenance day to determine the ultimate cause5	b-dipole main current monitor			
23-Jan	PR-059		1	8b-ps1	13:14 yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ3_VT. The beam permit tripped 34 msec. before the quench link. There were two real quench at y8q2 and y8q3. There was high beam loss at y8-lm3.1. There is now 24 beam induced quenches for this runGanetis	Beam Induced (Pre-fire of the Kicker)	y8q2 and y8q3	1	2
27-Jan	PR-060		1	8b-ps1	16:38:yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped 274 msec. before the quench link. There was a real quench at y8q2. There was high beam loss at y8-lm3.1. There is now 25 beam induced quenches for this runGanetis	Beam Induced	y8q2	1	1
28-Jan	PR-061		1	12a-ps1.A	yellow quench link trip was caused by 12-q7-ps going to the off state. This is the first time I have seen this type of fault this run. Ganetis	b12-q7-ps, loss of AC power			
31-Jan	PR-062		1	1b-ps1	yellow quench link trip was caused by 1b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y1QFA2_A1VT. This was during the ramp up. The beam permit tripped after the yellow quench link. There were real magnet quenches in an arc quad in sector 1 and at least 1 arc dipole in sector 5. There was high beam loss at g1-lm16 and g5-lm17. What are the BLM thresholds set to at this point on the ramp? There are now 26 beam induced quench link trips for this run. More detailed analysis will be needed to see if any other magnets quenchedGanetis	Beam Induce 026	Quad Arc Sec-1, Q10 thru Q20	1	1
31-Jan	PR-063		1	5b-ps1	yellow quench link trip was caused by 5b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y5DSA3_A2VT. This was during the ramp up. The beam permit tripped after the yellow quench link. There were real magnet quenches in at least an arc dipole in sector 5. There was high beam loss at g5-lm17 g5-lm18. What are the BLM thresholds set to at this point on the ramp? There are now 27 beam induced quench link trips for this run. More detailed analysis will be needed to see if any other magnets quenchedGanetis	Beam Induce 027	Dipole Arc Sec-5, D15 thru D20	1	1
31-Jan	PR-064		1	4b-time.A	blue quench link trip was caused by 4b-qd1 quench detector. The quench detector tripped because high a signal level in B3DSA5_A4VT. This was during the down ramp. More detailed analysis will be needed to determine the causeGanetis When the Supplies are ramping down and if the vents open / fans come on in the building during these extreme cold days, the quench detectors produce an offset by 7-8mV. 18 + 7 mV offset = 25mV = Limit. Quench Detectors to be retuned by George Ganetis	Quench Detector Fault			
Total Counts:		36	28						
Total Quench Events:		64							
Beam Induced Quenches:		14							
Real Magnet Quenches:		23							

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Date:	Reference ID	B	Y	QLI	Technical Notes	Causes and Repairs	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-Feb	PR-065	1		4b-time.A	In preparing to ramp down, we observe that 3b-ps1 shows aNo <i>Hearbeat</i> alarm. Attempts to reset the front-end computer fail, and, after contacting A. Marusic, he is also unable to reset the computer. After beam is aborted, we are forced to perform an AC reset to restore the FEC. This causes a quench link interlock in both rings from which we are working to recover.	Controls: AC Reset to the 3b-ps1 FEC			
1-Feb	PR-066		1	8b-ps1	In preparing to ramp down, we observe that 3b-ps1 shows aNo <i>Hearbeat</i> alarm. Attempts to reset the front-end computer fail, and, after contacting A. Marusic, he is also unable to reset the computer. After beam is aborted, we are forced to perform an AC reset to restore the FEC. This causes a quench link interlock in both rings from which we are working to recover.	Controls: AC Reset to the 3b-ps1 FEC			
1-Feb	PR-067	1		4b-time.A	Bo3-qf8-ps did not recover, indicating Standby-Error. Most likely the Auxiliary contactor needs to be replaced as the supply reset on the next attempt.	bo3-qf8-ps, Auxiliary Contacts.			
2-Feb	PR-068	1		2b-ps1	blue quench link trip was caused by 2b-qd1 quench detector. The quench detector tripped because signal in B2/IDX.DX. There was a voltage induced into the b2dx when the Brahms D3 magnet turned on. There was a large current spike when this D3 magnet first turned on. This D3 magnet is said to be next to the b2dx magnet as told to me by a Brahms operator. This turn on spike happened at the same time as the quench detector tripping, to within the resolution of the current being logged in the Brahms' D3 magnet. The beam permit tripped almost 2 min. before the quench link. (This really shows the importance of logging everything)	<b>Power Supply Induced Quench: DX Heaters fired due to a large current spike produced by the Brahms Magnet.</b>	<b>B1DRDX</b>		<b>1</b>
4-Feb	PR-069		1	2b-ps1	yellow quench link trip was caused by 2b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y2QFQ4.6VT. The beam permit tripped after the quench link. The magnets were at injection. There was real quench at y2q4. The low beam loss at y2-lm4 at 150 rads/hr. for over 2 sec. There is now 28 beam induced quenches for this run. Also some of the PostMortem data for the yellow IR p.s. is corrupted.	<b>Beam Induced #028.</b>	<b>y2q4</b>	<b>1</b>	<b>1</b>
4-Feb	PR-070	1		4b-time.A	Called MCR to bring both Rings to Zero current then brought Blue and Yellow Links down for maintenance as per Don Bruno.	Maintenance Day 0700 - 1900			
4-Feb	PR-071		1	4b-time.A	Called MCR to bring both Rings to Zero current then brought Blue and Yellow Links down for maintenance as per Don Bruno.	Maintenance Day 0700 - 1900			
4-Feb	PR-072	1		4b-time.B	Work on the Blue Mains	Maintenance Day 0700 - 1900			
4-Feb	PR-073	1		4b-time.B	Work on the Blue Mains	Maintenance Day 0700 - 1900			
4-Feb	PR-074	1		4b-time.B	Work on the Blue Mains	Maintenance Day 0700 - 1900			
4-Feb	PR-075	1		2b-ps1	The blue link came down because a new PLC program was loaded in 1002B	Maintenance Day 0700 - 1900			
4-Feb	PR-076		1	4b-time.B	The yellow link came down because one of the FEC's in 1004B was rebooted while the quench recovery script was running	Maintenance Day 0700 - 1900			
4-Feb	PR-077	1		4b-time.A	The blue quench link came down because 4b-qd1 was restarted	Maintenance Day 0700 - 1900			
4-Feb	PR-078	1		4b-time.A	The blue quench link came down because 4b-qd1 was restarted	Maintenance Day 0700 - 1900			
5-Feb	PR-079	1		2b-ps1	blue quench link trip was caused by 2b-qd1-quench detector. The quench detector tripped because of a high signal level in B2/IDX.DX. This signal was caused by the Brahms D3 magnet turning on. This was not a beam induced quench. The quench heaters for b2dx did fire and that caused the magnet to quench. The Brahms D3 magnet went up to full current in less than 20 sec. Dana told me they usually ramp up much slower in about 120 sec. I did not see any turn on spike in the log data but I still could have been there since the data is taken only once every 10 sec. We now have two trips due to this magnet being turned on. Brahms and MCR are going to have to develop a more formal procedure for operating this magnet at least until some hardware or software modification can be made to prevent this from happening again	<b>Power Supply Induced Quench: DX Heaters fired due to a large current spike produced by the Brahms Magnet.</b>	<b>b2dx</b>		<b>1</b>
5-Feb	PR-080	1		2b-ps1	blue quench link trip was caused by 2b-qd1 quench detector. The quench detector tripped because of a real magnet quench in b2dx. The magnet was at two high a temperature to be ramped to injection. Cryo should not have given the OK to go to injection. a DX magnet quenches at top energy you should wait at least one hour before you go to injection. Then wait until Cryo gives the OK to ramp to top energy.	<b>Cryo Related: Not enough sufficient time allowed for recovery of the b2dx quench.</b>	<b>b2dx</b>		<b>1</b>
6-Feb	PR-081	1		10a-ps3.A	blue quench link trip was caused by 10a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4.6VT. The beam permit tripped .090 sec. before the blue quench link. There were real magnet quenches at b10q4 and b11q2. There was a high loss at b19-lm4 and moderate loss at g11-lm1. There is now 29 beam induced quench link trips for this run.	<b>Beam Induced Quench #029</b>	<b>b10-q4, b11q2</b>	<b>1</b>	<b>2</b>
6-Feb	PR-082		1	6b-ps1	yellow quench link trip was caused by the permit module. We have put new hardware to try to understand what is happening at this permit module, but the software to record the signal has not been done. When will this software get done? The new signals have to be recorded in postmortem.	Controls, 6b-permit module			
6-Feb	PR-083		1	10a-ps3.A	yellow quench link trip was caused by y09-dh0 ps or qpa. The link tripped when the ps was being turned on. The alarm log showed no other fault but a quench fault. The ps did not go into the Off state. A possible cause could be problem with the cable between the ps and the qpa.	y09-dh0 power supply or QPA			
7-Feb	PR-084	1		12a-ps1.A	blue quench link trip was caused by 12a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B11QFQ2.VT. The beam permit tripped .055 sec. before the blue quench link. There were 4 real magnet quenches at b10 arc dipole, b11q2, b5q3, and b6q2. There where a high loss at b5-lm3.1, b6-lm3.2, g10-lm20, g10-lm16, g11-lm1. There are now 30 beam induced quench link trips for this run.	<b>Beam Induced Quench #030</b>	<b>b11q2, b5q3, b6q2, b10 arc dipole</b>	<b>1</b>	<b>4</b>
8-Feb	PR-085		1	6b-ps1	yellow quench link trip was caused by the permit module in 6b. We have put new hardware to try to understand what is happening at this permit module, but the software to record the signal has not been done. When will this software get done? The new signals have to be recorded in postmortem. This is the 2nd time in two days this problem has tripped the yellow quench link	Controls, 6b-permit module			
8-Feb	PR-086		1	6b-ps1	yellow quench link trip was caused by the permit module in 6b. We have put new hardware to try to understand what is happening at this permit module, but the software to record the signal has not been done. When will this software get done? The new signals have to be recorded in postmortem. This is the 3rd time in two days that this problem has tripped the yellow quench link	Controls, 6b-permit module			
8-Feb	PR-087		1	6b-ps1	Quench Link Interlock in Yellow ring. 6b-ps1 dropped first	Controls, 6b-permit module			



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8-Feb	PR-088	1	6b-ps1	yellow quench link trip was caused by the permit module in 6b. We have put new hardware to try to understand what is happening at this permit module, the software to record the signal is now in PM Viewer. The new signals are now recorded in postmortem. What do the experts say about the signals that were captured? Can the controls group please put some comments in the E-log on what they are doing to troubleshoot or repair this problem. This is the 4th time in two days this problem has tripped the yellow quench link. <a href="#">Ganetis</a>	Controls, 6b-permit module				
8-Feb	PR-089	1	10a-ps3.A	yi10-q89 indicated "no ps illegal state" on psall. CAS (Frank and George) went out to look at the ps and saw the circuit breaker tripped. They turned it back on and I was able to bring the link up in that building alone. I was able to run this p.s. to 10A but did not take it any further. I asked MCR to try and bring the whole yellow link up and try to ramp the p.s.'s. In the meantime I will have CAS bring a spare p.s. up to 1010A. I will get them prepared to swap out this p.s. if the circuit breaker trips again. <a href="#">Don Bruno</a>	IR Power Supply at fault: yi10-q89-ps				
10-Feb	PR-090	1	10a-ps3.A	blue quench link trip was caused by the 10a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped .46 msec. before the quench link. There was a real quench at b10q4. There was high beam loss at b10-lm4. There are now 31 beam induced quenches for this run. <a href="#">Ganetis</a>	Beam Induced Quench #031	b10q4	1	1	
10-Feb	PR-091	1	6b-ps1	Scheduled 1 hour maintenance. Controls replaced the 6b-ps1 Permit Module Chassis. Possible grounding problem that had been the cause of the mysterious prior QLI trips. Upon powering down the chassis, both links dropped.	One Hour Scheduled Maintenance				
10-Feb	PR-092	1	6b-ps1	Scheduled 1 hour maintenance. Controls replaced the 6b-ps1 Permit Module Chassis. Possible grounding problem that had been the cause of the mysterious prior QLI trips. Upon powering down the chassis, both links dropped.	One Hour Scheduled Maintenance				
10-Feb	PR-093	1	6b-ps1	Scheduled 1 hour maintenance. Controls replaced the 6b-ps1 Permit Module Chassis. (ref to PR-091 & 092) Bringing the yellow link back up, there had been a communications problem with the y0-l-q6-qp. After three attempts, the problem cleared by itself.	One Hour Scheduled Maintenance				
13-Feb	PR-094	1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped .061 sec. before the yellow quench link. There were two real magnet quenches at y8q2 and y8q3. There were high beam losses at y8-lm3.1 and g8-lm1. There are now 32 beam induced quench link trips for this run. <a href="#">Ganetis</a>	Beam Induced Quench #032	y8q2, y8q3	1	2	
15-Feb	PR-095	1	6b-ps1	blue quench link trip was caused by 6b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped .053 sec. before the blue quench link. There was a real magnet quench at b5q2. There was a moderate beam loss at g5-lm1. There is now 33 beam induced quench link trips for this run. <a href="#">Ganetis</a>	Beam Induced Quench #033	b5q2	1	1	
16-Feb	PR-096	1	6b-ps1	blue quench link trip was caused by 6b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped after the blue quench link. There was a real magnet quench at b5q2. There was a low to moderate beam loss at g5-lm1. The quench happened at the end of the ramp. There is now 34 beam induced quench link trips for this run. <a href="#">Ganetis</a>	Beam Induced Quench #034	b5q2	1	1	
16-Feb	PR-097	1	6b-ps1	blue quench link trip was caused by 6b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped after the blue quench link. There was a real magnet quench at b5q2. There was a moderate beam loss at g5-lm1. The quench happened at the end of the ramp. There is now 35 beam induced quench link trips for this run. This is the third beam induced quench at this location in the last 24 hours. <a href="#">Ganetis</a>	Beam Induced Quench #035	b5q2	1	1	
17-Feb	PR-098	1	2b-ps1	blue quench link trip was caused by 2b-qd1 quench detector. The quench detector tripped because signal in B2/IDX_DX. There was a voltage induced into the b2dx when the Brahms D3 magnet turned off from full current. The FEC that controls this magnet was AC cycled. The beam permit tripped .81 sec. before the quench link. This was not a beam induced magnet quench. <a href="#">Ganetis</a>	FEC, AC Reset caused Brahms D3 magnet to turn off at full current, causing an induced voltage spike into the b2dx	b2dx		1	
17-Feb	PR-099	1	2b-ps1	blue quench link trip was caused by 2b-qd1 quench detector. The quench detector tripped because of a real quench in B2/IDX_DX. The b2dx magnet quenched because it did not fully recover from the last quench. The time between quenches was hour and 23 min. The b1dx magnet also quenched after the quench link was tripped. It will take me more time to figure why that happened. The b2dx magnet quenched while ramping to full current. I am strongly recommending a wait of two hours for all DX quenches before they are quenched to high current. <a href="#">Ganetis</a>	Cryo Related, not enough allowed time to recover the Dx magnet quench from the previous QLI: PR-098	b2dx, b1dx		2	
17-Feb	PR-100	1	2b-ps1	yellow quench link trip was caused by 2b-qd2 quench detector. The quench detector tripped because of magnetic coupling of the d0 magnets. When the blue link tripped with both b2 and b1 dx magnets quenching it causes a fast change in current in the blue d0 magnets. This is because of the way the ps are nested for the dx and d0 magnets. The magnetic coupling of the d0 magnets caused the yellow quench detector to interpret the yellow d0 signal as a quench in the d0 magnet. <a href="#">Ganetis</a>	Magnetic Coupling of dhX Magnets to dh0				
18-Feb	PR-101	1	2b-ps1	The beam studies have ended and the maintenance period has begun. The RHIC mains are being ramped to zero. All of the RHIC zones except the dump area are being placed on RA. HP is going to survey the RHIC dump areas.	Maintenance Day 0700 - 1500				
18-Feb	PR-102	1	2b-ps1	The beam studies have ended and the maintenance period has begun. The RHIC mains are being ramped to zero. All of the RHIC zones except the dump area are being placed on RA. HP is going to survey the RHIC dump areas.	Maintenance Day 0700 - 1500				
18-Feb	PR-103	1	4b-time.B	Recovering from Maintenance, these were not related to the Main Power Supplies. Since this was all part of maintenance, it will be included in the Maintenance Related column in the fy04 RHIC Counters.	Recovering from Maintenance				
18-Feb	PR-104	1	4b-time.B	Recovering from Maintenance, these were not related to the Main Power Supplies. Since this was all part of maintenance, it will be included in the Maintenance Related column in the fy04 RHIC Counters.	Recovering from Maintenance				
19-Feb	PR-105	1	3b-ps1	blue quench link trip was caused by 3b-qd1 quench detector. The quench detector had a hardware fault in its ADC Card. <a href="#">Ganetis</a>	3b-qd1 Quench Detector, ADC Card				
19-Feb	PR-106	1	3b-ps1	Yellow quench link trip was caused by 3b-qd1 quench detector. The quench detector had a hardware fault in its ADC Card. <a href="#">Ganetis</a>	3b-qd1 Quench Detector, ADC Card				
19-Feb	PR-107	1	2b-ps1	Blue quench link trip was caused by b2-dh0-ps when the p.s. was being turned on. The p.s. had no faults in the alarm log other than quench fault. This could be a problem with the cable between the ps and qpa. <a href="#">Ganetis</a>	Power Supply to QPA Cable?				
19-Feb	PR-108	1	3b-ps1	3b-qd1 was restarted to try to clear the fifo empty problem on the ADC card. <a href="#">Ganetis</a>	3b-qd1 Quench Detector, Restart				
19-Feb	PR-109	1	3b-ps1	3b-qd1 was restarted to try to clear the fifo empty problem on the ADC card. <a href="#">Ganetis</a>	3b-qd1 Quench Detector, Restart				
19-Feb	PR-110	1	3b-ps1	3b-ps1 on the quench summary page pink-off line. FitReader indicated that cfe-3b-ps1 had no heartbeat, ping check failed so it had to be rebooted. This caused the Blue and Yellow links to come down. <a href="#">Note: 12a-ps1</a> . Indicated the first but was the next closest time to register since 3b-ps1 had gone off line during the reboot process.	cfe Reset of 3b-ps1				
19-Feb	PR-111	1	3b-ps1	3b-ps1 on the quench summary page pink-off line. FitReader indicated that cfe-3b-ps1 had no heartbeat, ping check failed so it had to be rebooted. This caused the Blue and Yellow links to come down. <a href="#">Note: 6b-ps1</a> indicated the first but was the next closest time to register since 3b-ps1 had gone off line during the reboot process.	cfe Reset of 3b-ps1				



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21-Feb	PR-112	1		3b-ps1	3b-ps1 on the quench summary page pink-off line. FitReader indicated that cfe-3b-ps1autocheckout ping check failed, no heartbeat message and that the resets did not work. AC reset was required and then re-booting caused the Blue and Yellow links to come down. <b>Note: 6b-ps1</b> checked out okay and was the next closest time to register since 3b-ps1 had gone off line during the reboot process.	cfe Reset of 3b-ps1				
21-Feb	PR-113		1	3b-ps1	3b-ps1 on the quench summary page pink-off line. FitReader indicated that cfe-3b-ps1autocheckout ping check failed, no heartbeat message and that the resets did not work. AC reset was required and then re-booting caused the Blue and Yellow links to come down. <b>Note: 8b-ps1</b> checked out okay and was the next closest time to register since 3b-ps1 had gone off line during the reboot process.	cfe Reset of 3b-ps1				
24-Feb	PR-114		1	5b-ps1	yellow quench link trip was caused by 5b-qd1 quench detector. The quench detector tripped because of a real magnet quench at YSDSA3_A2_VT. The beam permit tripped after the yellow quench link. There were real magnet quenches at y5d19 and y5d18. There were high beam losses at g5-lm20, g5-lm19, g5-lm18 and g5-lm17. There are now 36 beam induced quench link trips for this run. The qdAlarmsblue page was not saved correctly in PostMortem <b>Ganetis</b>	<b>Beam Induced Quench #036</b>	y5d19, y5d18	<b>1</b>	<b>2</b>	
25-Feb	PR-115	1		8b-ps1	blue quench link trip was caused by 8b-qd1-quench detector. The quench detector tripped because induced signal in B7QDQ8_V. It looks like a voltage was induced in this voltage tap signal. This voltage is induced only if some faction of the IR power supplies are ramped. b8-q89 seems to have the highest di/dt. When beam studies continued I was able to capture data that confirms this. The most likely place for this to happen is in the spin rotator b7rot3. There is a known problem with the routing of the IR buses and voltage taps through all helical magnets that makes them susceptible to this problem. The only solution is to ramp the magnets slower when doing these types of tests. <b>Ganetis</b>	Beam Studies:IR Supplies Ramped to fast. Other / Investigation				
28-Feb	PR-116	1		11b-ps1	Blue quench link trip was caused by the 11b-qd1 Quench Detector. The quench detector tripped because of a real magnet quench B10DSA5_A4VT. The beam permit tripped 48 msec. before the quench link. There were at least 6 real quenches. The magnets that quenched where b10d12, b10d16, b10q12, b10q16, b5q3, and b6q2. There were high beam losses at g10-lm12, g10-lm13, g10-lm16, g10-lm20, b5-lm3.1, and b6-lm3.2. There is now 37 beam induced quenches for this run <b>Ganetis</b>	<b>Beam Induced Quench #037</b>	b10d12, b10d16, b10q12, b10q16, b5q3, and b6q2	<b>1</b>	<b>6</b>	
Total Counts:		31	21							
Total Quench Events:		52								
Beam Induced Quenches:		10								
Real Magnet Quenches:		27								

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Date:	Reference ID	B	Y	QLI	Technical Notes	Causes and Repairs	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
3-Mar	PR-117		1	9b-ps1	Yellow quench link trip was caused by 9b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y9QFA2_A1VT. The beam permit tripped 50 msec. before the quench link. There was a real magnet quench at y9q14 . There was high beam loss at g9-lm14. There is now 38 beam induced quenches for this run. Ganetis	Beam Induced Quench #038	y9q14	1	1
3-Mar	PR-118		1	4b-time.B	Yellow quench link trip was caused by the yellow main quad p.s.. The p.s. had a regulator error fault. The permit link tripped after the quench link. Ganetis	Main Yellow Quad P.S., Regulator Error			
3-Mar	PR-119		1	4b-time.B	Yellow quench link trip was caused by the yellow main quad p.s.. The p.s. had a regulator error fault. The permit link tripped after the quench link. Ganetis [ quench ]	Main Yellow Quad P.S., Regulator Error			
3-Mar	PR-120	1		4b-time.A	Scheduled Maintenance (Too much to list, See RHIC Power Supply Summary Log, (Maintenance section)	Maintenance			
3-Mar	PR-121	1		9b-ps1	New Ramp Attempt:18:07 I tried new Au6 ramp. It reached the top, but down sequence caused QLI (which is I guess expected). Al Marusic	New Ramps Test (Other / Inv.)			
3-Mar	PR-122		1	3b-ps1	New Ramp Attempt:18:07 I tried new Au6 ramp. It reached the top, but down sequence caused QLI (which is I guess expected). Al Marusic	New Ramps Test (Other / Inv.)			
5-Mar	PR-123	1		10a-ps3.A	blue quench link trip was caused by 10a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped 49 msec. before the quench link. There were at least 4 real quenches. The magnets that quenched where b10q6, b10d12, b5q3, and b6q2.. There were high beam losses at g10-lm12, g10-lm6, b5-lm3.1, and b6-lm3.2. There is now 39 beam induced quenches for this run. Ganetis	Beam Induced Quench #039	b10q6, b10d12, b5q3, b6q2	1	4
5-Mar	PR-124	1		8b-ps1	blue quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B8QFQ2_VT. The beam permit tripped after the quench link. There was a real magnet quench at b8q2 . There was a high beam loss at b8-lm3.2. There is now 40 beam induced quenches for this run. Ganetis	Beam Induced Quench #040	b8q2	1	1
6-Mar	PR-125		1	6b-ps1	Yellow quench link trip was caused by the permit module. This is an on going control system problem. Ganetis	Controls, Permit Module at 1006B			
10-Mar	PR-126	1		12a-ps1.A	blue quench link trip was caused by 12a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B11QFQ2_VT. The beam permit tripped 38 msec. before the quench link. There were 3 real quenches. The magnets that quenched where b11q2, b6q2, and b5q3. There were high beam losses at g11-lm1, b5-lm3.1 and b6-lm3.2. There is now 41 beam induced quenches for this run. Ganetis	Beam Induced Quench #041	b11q2, B6q2, b5q3	1	3
11-Mar	PR-127		1	6b-ps1	BEAM STUDIES in progress, Ramping of the IR Supplies, Y16-qf9 tripped on DC Overcurrent. Upon checking the Voltage Regulator card settings, found that the supply was set to trip at 100amps. This Supply with new cards had been replaced prior to the Physics Run and the DCOC was not properly set.	y16-qf9-ps DCOC			
11-Mar	PR-128		1	4b-time.B	BEAM STUDIES in progress, The yellow quench link trip was caused by the yellow main quad p.s., whereas a regulator error fault had occurred. The permit link tripped 0.031 seconds after the quench link. Heppner	Main Yellow Quad P.S., Regulator Error			
11-Mar	PR-129	1		6b-ps1	BEAM STUDIES in progress, 10:13 After the beta squeeze experiments, the ramp was reverted to the previous store ramp. This new ramp was not activated before executing the hysteresis ramp, and this caused the quench links to fail. JLJLN	Operations Error, Wrong Ramp			
12-Mar	PR-130		1	6b-ps1	Yellow quench link trip was caused by a on going permit module fault. This fault seems to show up every couple of weeks. Ganetis [ quench ]	Controls, Permit Module at 1006B			
12-Mar	PR-131		1	4b-time.B	While recovering from Quench File PR-130, the yellow main quad power supply went into Reg Error. Techs replaced the Ramp Digital Firing Card.	Main Yellow Quad P.S., Regulator Error			
12-Mar	PR-132		1	4b-time.B	While recovering from Quench File PR-131, the yellow main quad power supply went into Reg Error. Carl notified and working on problem.	Main Yellow Quad P.S., Regulator Error			
12-Mar	PR-133		1	4b-time.B	The problem with the Yellow Quad Ramp Power Module was a loose AC wire feeding the SCR gate driver boards. During the course of the troubleshooting a spare firing spare board was installed in the regulator for the Yellow Quad. This board had a bent pin the prevented it from operating properly. After fixing these two problems a hysteresis ramp was run. CS	Main Yellow Quad P.S., Regulator Error			
12-Mar	PR-134	1		5b-ps1	22:10: We receive a No Heartbeat alarm for FEC 5b-qd1 . We contact G. Ganetis to assist in diagnosing this FEC since it is a component in the quench detection system. 22:15: Could not talk to fec 5b-qd1 , had to reset fec. This brought both links down. Ganetis	Could not talk to fec 5b-qd1 , had to reset fec - Other			
12-Mar	PR-135		1	5b-ps1	22:10: We receive a No Heartbeat alarm for FEC 5b-qd1 . We contact G. Ganetis to assist in diagnosing this FEC since it is a component in the quench detection system. 22:15: Could not talk to fec 5b-qd1 , had to reset fec. This brought both links down. Ganetis	Could not talk to fec 5b-qd1 , had to reset fec - Other			
13-Mar	PR-136		1	6b-ps1	This looks like the ongoing 6b permit module problem. Unfortunately, it appears to have happened as recently as yesterday afternoon. I'm opting to continue for now. If it happens again in the near future, we will call the Controls Group. JPP 11:07: yellow quench link trip was caused by the permit module. This is a on going control system problem. This is the 2nd trip in the last 24 hours. Ganetis	Controls, Permit Module at 1006B			
13-Mar	PR-137		1	6b-ps1	Yellow quench link trip was caused by the permit module. This is an on going control system problem. This is the 3rd trip in the last 24 hours. Ganetis	Controls, Permit Module at 1006B			
15-Mar	PR-138		1	6b-ps1	yellow quench link trip was caused by a on going permit module fault. This is the 4th trip from this in the last 3 days. Ganetis Controls personnel are setting up a ground on the permit I/O module in 6B. jak	Controls, Permit Module at 1006B			
17-Mar	PR-139	1		4b-time.A	Brought down the blue link for Scheduled Maintenance Day. Heppner	Maintenance			

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17-Mar	PR-140		1	4b-time.A	Brought down the yellow link for Scheduled Maintenance Day <a href="#">G Heppner</a>	Maintenance			
19-Mar	PR-141		1	8b-ps1	Initial Analysis: Yellow quench link trip was caused by the 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped after the quench link. There was a real magnet quench at y8q2. High Beam losses found at g8-lm1 & y8-lm3. There are now 42 beam induced quenches for this run <a href="#">G Heppner</a>	Beam Induced Quench #042	y8q2	1	1
22-Mar	PR-142		1	6b-ps1	The yellow quench link trip was caused by the on going permit module fault in 6b-ps <a href="#">Ganetis</a>	Controls, Permit Module at 1006B			
22-Mar	PR-143	1		10a-ps3.A	blue quench link trip was caused by 10a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped after the quench link. There was a real magnet quench at b10q4. There was high beam loss at b10-lm4. There is now 43 beam induced quenches for this run. <a href="#">Ganetis</a> [ quench ]	Beam Induced Quench #043	b10q4	1	1
22-Mar	PR-144	1		4b-time.B	Carl adjusted the current trip point for SCR26 <a href="#">jak</a>	Blue Main Quad, Current monitor			
23-Mar	PR-145		1	6b-ps1	Yellow quench link trip was caused by the on going permit module fault in 6b-ps <a href="#">Ganetis</a>	Controls, Permit Module at 1006B			
23-Mar	PR-146	1		4b-time.B	blue quench link trip was caused by the blue main dipole p.s.. The p.s. had a PFN1 Fault and a PFN2 Fault. The permit link tripped after the quench link <a href="#">Ganetis</a>	Blue Main Dipole, PFN1 Fault, PFN2 Fault			
23-Mar	PR-147		1	6b-ps1	yellow quench link trip was caused by the on going permit module fault in 6b-ps1. This is the 2nd one in the last 24 hours. <a href="#">Ganetis</a>	Controls, Permit Module at 1006B			
23-Mar	PR-148		1	6b-ps1	yellow quench link trip was caused by the permit module. This is a on going control system problem. This is the 3rd trip in the last 24 hours. Could someone from the controls group please put a comment in the e-log on the status of the investigation into this problem <a href="#">Ganetis</a>	Controls, Permit Module at 1006B			
24-Mar	PR-149		1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ3_VT. The beam permit tripped .049 sec. before the quench link. There was one real quench at y8q3. There was a high beam loss at y8-lm3.1. There is now 44 beam induced quenches for this run. <a href="#">Ganetis</a>	Beam Induced Quench #044	y8q3	1	1
24-Mar	PR-150		1	6b-ps1	yellow quench link trip was caused by the on going permit module fault in 6b-ps1. This is the 4th one in the last 36 hours. <a href="#">Ganetis</a>	Controls, Permit Module at 1006B			
24-Mar	PR-151	1		6b-ps1	A Ring access was requested allowing a brief maintenance for Controls to investigate the multiple 6b-ps1 trips. <a href="#">G Heppner</a>	Requested Maintenance, Controls			
24-Mar	PR-152		1	6b-ps1	A Ring access was requested allowing a brief maintenance for Controls to investigate the multiple 6b-ps1 trips. <a href="#">G Heppner</a>	Requested Maintenance, Controls			
25-Mar	PR-153	1		9b-ps1	Both links tripped because the magnets were ramped too fast for a ramp that is off the hysteresis cycle. The WFG manger is supposed to prevent this. Ask Al Marusic to investigate this <a href="#">Ganetis</a> The ramp was from injection to zero, instead of injection to park to zero. <a href="#">Al Marusic</a>	Controls Related, Off the Hysteresis Cycle			
25-Mar	PR-154		1	11b-ps1	Both links tripped because the magnets were ramped too fast for a ramp that is off the hysteresis cycle. The WFG manger is supposed to prevent this. Ask Al Marusic to investigate this <a href="#">Ganetis</a> The ramp was from injection to zero, instead of injection to park to zero. <a href="#">Al Marusic</a>	Controls Related, Off the Hysteresis Cycle			
29-Mar	PR-155	1		12a-ps1.A	cfe-12a-qd1 is unpingable. G. Ganetis was contacted and reported that the FEC should be reset with the mains at zero. He also suggested that Operations should contact T. Clifford to investigate the FEC before the reset is issued. After investigating the network connections in 1012A as per T. Clifford's request, cfe-12a-qd1 was reset through FIT. The blue quench link is being recovered. The quench link tripped when cfe-12a-qd1 was reset.	Quench Detector Fault, Reset required of cfe-12a-qd1			
30-Mar	PR-156	1		6b-ps1	This happened when Rob Michnoff disconnected the scope from the 6b quench permit, only because the wrong cable was disconnected temporarily <a href="#">JPJ</a>	Controls Related, Tech working on system for 6b-permit.			
Total Counts:			15	25				7	12
Total Quench Events:			40						
Beam Induced Quenches:			7						
Real Magnet Quenches:			12						

Date:	Reference ID	B	Y	QLI	Technical Notes	Causes and Repairs	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
2-Apr	PR-157	1		8b-ps1	Recovering from Maintenance Day, the fec for 8b-qd1 needed to be re-booted. <a href="#">Ganetis</a>	Maintenance			
2-Apr	PR-158		1	7b-ps1	Recovering from the Maintenance Day, the fec for 7b-qd1 needed to be re-booted. <a href="#">Ganetis</a>	Maintenance			
2-Apr	PR-159	1		8b-ps1	Recovering from Maintenance Day, lue quench link trip was caused by 8b-q89 cable between ps and qua. This happen when the ps was being turned on. <a href="#">Ganetis</a>	Maintenance			
3-Apr	PR-160		1	4b-time.A	Yellow quench link trip was caused by 4b-qd2 quench detector. The quench detector tripped because of a real bus quench at Y3QDQ8_VT. The beam permit tripped before the yellow quench link. The bus quench was caused by warm gas from the snake y13-snk7-2.3 tripping and then quenching. <a href="#">Ganetis</a>	Warm Gas caused by Snk Quench	Y3QDQ8 Buss		1
4-Apr	PR-161		1	4b-time.A	Yellow quench link trip was caused by 4b-qd2 quench detector. The quench detector tripped because of a real bus quench at Y3QFBU9_7VT. The beam permit tripped before the yellow quench link. The bus quench was caused by warm gas from the snake y13-snk7-2.3 tripping and then quenching. <a href="#">Ganetis</a>	Warm Gas caused by Snk Quench	Y3QFBU9_7 Buss		1
5-Apr	PR-162	1		1b-ps1	The quench link was pulled due to a quench detector at 1b-qd1 that picked up the Blue Main Dipole Power Supply as it had gone into oscillation when switching from Flat Top Current to Ramp Current. There was no beam in the machine at the time, A large spike on the dipole buss seen at B12DSA4_A3VT exceeded max limits. This is not a real magnet quench. Cause: Blue Main Dipole Power Supply. Oscillation. <a href="#">G. Heppner</a>	Blue Main Dipole Power Supply			
5-Apr	PR-163	1		4b-time.A	Scheduled Maintenance, MCR had given permission to take control of the Rings.	Maintenance			
5-Apr	PR-164		1	4b-time.A	Scheduled Maintenance, MCR had given permission to take control of the Rings.	Maintenance			
7-Apr	PR-165	1		12a-ps1.A	Recovering from Three-Day Maintenance, Snake and Spin Magnets ready to go for full operation for the Polarized Proton Run fy04. Cable between power supply and QPA.	Maintenance			
9-Apr	PR-166	1		1b-ps1	blue quench link trip was caused by 1b-qd1 quench detector. The voltage signals going into the quench detector were not normal due to the blue main dipole power supply oscillating. On the down ramp the ps started to oscillate when it switch from the flat top power module to the ramp power module. Carl S. is investigating this. <a href="#">Ganetis</a>	Blue Main Dipole Power Supply			
10-Apr	PR-167		1	6b-ps1	Yellow quench link trip was caused by 6b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y6QFQ3_VT. The beam permit tripped after the quench link. There was one real magnet quench at y6q3. There was high beam loss for .3 sec at y6-lm3.1 before the beam permit was tripped. Are the thresholds correct for the BLMs? There is now 45 beam induced quenches for this run. <a href="#">Ganetis</a> [ <a href="#">quench</a> ]	Beam Induced Quench #045	y6-q3	1	1
10-Apr	PR-168		1	10a-ps3.B	Yellow quench link trip was caused by the yellow 6-KA Quench Protection Switch. The switch was turned off by the quench recovery program. The quench recovery program was re-run because the yellow main dipole p.s. did not come up to current. Carl S. should be contacted to investigate this. <a href="#">Ganetis</a>	Yellow Main Quad Power Supply			
10-Apr	PR-169		1	8b-ps1	Yellow quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped after the quench link. There was one real magnet quench at y8q2. There was moderate beam loss for .5 sec at g8-lm1 before the beam permit was tripped. Are the thresholds correct for the BLMs? There is now 46 beam induced quenches for this run. <a href="#">Ganetis</a>	Beam Induced Quench #046	y8q2	1	1
10-Apr	PR-170		1	10a-ps3.B	Yellow quench link trip was caused by the yellow 6-KA Quench Protection Switch. The switch was turned off by the quench recovery program. The quench recovery program was re-run because the yellow main quad p.s. did not come up to current. Carl S. should be contacted to investigate this. <a href="#">Ganetis</a>	Yellow Main Quad Power Supply			
13-Apr	PR-171		1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped after the quench link. There was one real quench at y8q2. There was low to moderate beam losses at g8-lm.1. There is now 47 beam induced quenches for this run. <a href="#">Ganetis</a>	Beam Induced Quench #047	y8q2	1	1
13-Apr	PR-172		1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped after the quench link. There was one real quench at y8q2. There was low to moderate beam losses at g8-lm.1. There is now 48 beam induced quenches for this run. <a href="#">Ganetis</a>	Beam Induced Quench #048	y8q2	1	1
13-Apr	PR-173		1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped after the quench link. There was one real quench at y8q2. There was low to moderate beam losses at g8-lm.1. There is now 49 beam induced quenches for this run. This is the third beam loss quench in the last 12 hours. What are the thresholds for the blms for the triplets? Are they too high? <a href="#">Ganetis</a>	Beam Induced Quench #049	y8q2	1	1
14-Apr	PR-174		1	4b-time.B	C. Schultheiss was contacted after the Yellow beam energy matching at injection was found to gradually be getting worse since sometime during the day on Tuesday. Carl found that the y-dmain DCCT reading has been dropping gradually over the last few ramps. He and R. Diffranco swapped out the DCCT electronics and tightened the head connectors on the DCCT. The DCCT reading is now back to where it was before any abnormal activity was observed this week (Monday @ 18:00).	Yellow Main Dipole Power Supply			
14-Apr	PR-175	1		4b-time.B	C. Schultheiss working on the Yellow Main Dipole (PR-174), he accidentally tripped the Blue.	Blue Main Dipole Power Supply			
14-Apr	PR-176		1	5b-ps1	DCCT Reg Error for the Yellow Main Dipole Power Supply, the Main Voltage initially shot up approximately 40 volts, current signal on Qdplots showed several spikes before dropping tripping off. All this pulled all 13 Yellow Quench Detectors, tripping the link. <a href="#">G. Heppner</a>	Yellow Main Dipole Power Supply, DCCT Reg Error			
14-Apr	PR-177	1		4b-time.A	Power Failure at 1004B Substations 480vac, Phase A and Phase C shorted somewhere in the tube underground. <a href="#">G. Heppner</a>	Power Failure, Substation 1004B			

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14-Apr	PR-178	1	4b-time.B	Carl switched over to regulate off of the redundant DCCT for the yellow dipole main p.s.s. He said there is a problem with it. He will go back to the original DCCT but he has installed new connectors for it and will install a new electronics module for <a href="#">Don Bruno</a>	Yellow Main Dipole Power Supply, DCCT Maintenance Related				
14-Apr	PR-179	1	4b-time.B	Dropped the link to restore the DCCT's. The Holec unit was showing a lot of noise (100 mA pk to pk at 80 Hz). The regulator is now using a third Danfysik electronics unit. The redundant DCCT read back is not working properly, it will be fixed at the next maintenance due <a href="#">S. Aziz 15, 2004</a> . Further investigation of the original DCCT Bundy Connector from the DCCT Module at the DC Buss that was replaced showed that female "Pin - D" had no longer spring tension to secure the mating pin. <a href="#">Orsatti</a>	Yellow Main Dipole Power Supply, DCCT Maintenance Related				
16-Apr	PR-180	1	8b-ps1	Blue quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B7QFQ2_VT. The beam permit tripped .116 sec. before the quench link. There was one real magnet quench at b7q2. There was moderate beam loss for 1.5 sec at g7-lm1 before the beam permit was tripped. There is now 50 beam induced quenches for this run. <a href="#">Ganetis</a>	<b>Beam Induced Quench #050</b>	<b>b7q2</b>	<b>1</b>	<b>1</b>	
16-Apr	PR-181	1	5b-ps1	FitReader verified that a Reset had taken place at 14:15:29. This will pull the Link. However, the good news is that this occurred right after the Blue Ring Quenched (Reference to PR-101), the Yellow Ring magnets had been ramped to zero prior to this Reset. <a href="#">G. Heppner</a> This dropped when we reset cfe-5b-qd1. <a href="#">Peggy</a>	Quench Detector Fault (Reset required for 5b-qd1)				
17-Apr	PR-182	1	10a-ps3.A	<b>3:39</b> We had to reset cfe-10a-qd1, qd2, 2b-qd1, and 4b-qd1 (and someone else probably reset 4b-qd2) after the first hysteresis ramp. George Ganetis and Al Marusic were contacted. <a href="#">PJ, NAK</a> (Numerous FEC no heartbeat alarms were received during this period.)	Quench Detector Fault (Reset required for 10a-qd1, 10a-qd2, 2b-qd1, 4b-qd1)				
17-Apr	PR-183	1	10a-ps3.A	<b>3:39</b> We had to reset cfe-10a-qd1, qd2, 2b-qd1, and 4b-qd1 (and someone else probably reset 4b-qd2) after the first hysteresis ramp. George Ganetis and Al Marusic were contacted. <a href="#">PJ, NAK</a> (Numerous FEC no heartbeat alarms were received during this period.)	Quench Detector Fault (Reset required for 10a-qd1, 10a-qd2, 2b-qd1, 4b-qd1)				
18-Apr	PR-184	1	11b-ps1	Several voltage taps around the ring have alarmed (10a, 7b, 12a, 11b, 2b), and this occurred while we were ramping down, so no beam was in the machine. This is a typical signature of a yellow main problem. Libby is contacting Carl Schultheiss to investigate, and we're ramping other mains back down to zero. <a href="#">TJS, Sanjee, AJK, Libby</a> Yellow quench link trip was caused by 11b-qd1 quench detector. The quench detector tripped because of a erroneous current signal from the yellow main quad power supply. <a href="#">ganetis</a>	Yellow Main Quad Power Supply				
18-Apr	PR-185	1	12a-ps1.A	Yellow quench link trip was caused by 12a-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y12QFQ7_VT. The beam permit tripped after the quench link. There were 9 real magnet quenches. The quenched magnet locations are y1q7,y1q11,y1q19,y4q14,y5q2,y5q11,y5q15,y12q15 and y12q7. There were high beam losses g1-lm7,g1-lm11,g1-lm19,g4-lm14,y5-lm3.2,y5-lm3.1,g5-lm11,g5-lm15,g12-lm15, and g12-lm7. The loss data was from the blue dump. There is now 51 beam induced quenches for this run. <a href="#">Ganetis</a>	<b>Beam Induced Quench #051</b>	<b>y1q7,y1q11,y1q19,y4q14,y5q2,y5q11,y5q15,y12q15 and y12q7</b>	<b>1</b>	<b>9</b>	
20-Apr	PR-186	1	10a-ps3.B	Blue quench link trip was caused by a loss of power to the b9 6K Amp quench protection switch. We believe the UPS for this switch had a bad battery and when the UPS was doing a self-check, it could not supply power to the switch and this caused the switch to open and to show a fault. <a href="#">Ganetis</a>	Quench Switch (QPA) UPS Battery Fail				
20-Apr	PR-187	1	10a-ps3.B	Yellow link trip was caused by a loss of power to the y9 6K Amp quench protection switch. We turned off the UPS to do a self-check on the battery. This battery is marginal and will have to be replaced within the next couple of days. <a href="#">Ganetis</a>	Quench Switch (QPA) UPS Low Battery Test				
22-Apr	PR-188	1	4b-time.A	1) Yellow Link was tripped to replace the UPS Batteries for the Y10DQPSW Quench Switch in building 1010A. (Reference to April 20, 2004, QLI for Yellow 10a-ps3.B @ 17:18) 2) Repair a shielding wire to the connector of the Redundant DCCT for the Yellow Main Dipole. <a href="#">Heppner</a>	Scheduled Maintenance 2 Hours				
25-Apr	PR-189	1	9b-ps1	We suffer a quench link interlock in both blue and yellow rings after an activate command was accidentally sent to the rotator ramp rather than the main ramp in RHIC. We consulted with J. van Zeijts after the error occurred, and he advised to run the Rot Down sequence and reactivate the main ramp. However, upon running the Rot Down sequence, the quench link interlock occurred. We are working to ramp all references to park and begin quench link recovery. <a href="#">MCR</a> Both the blue and yellow link trips were caused by arc quench detectors. The quench detectors tripped because the magnets were ramped down to fast. The ramp used a slow factor of 1 instead of the required 3. Could Al Marusic please look into why this happened. <a href="#">Ganetis</a>	Wrong Ramp sequence used.				
25-Apr	PR-190	1	3b-ps1	We suffer a quench link interlock in both blue and yellow rings after an activate command was accidentally sent to the rotator ramp rather than the main ramp in RHIC. We consulted with J. van Zeijts after the error occurred, and he advised to run the Rot Down sequence and reactivate the main ramp. However, upon running the Rot Down sequence, the quench link interlock occurred. We are working to ramp all references to park and begin quench link recovery. <a href="#">MCR</a> Both the blue and yellow link trips were caused by arc quench detectors. The quench detectors tripped because the magnets were ramped down to fast. The ramp used a slow factor of 1 instead of the required 3. Could Al Marusic please look into why this happened. <a href="#">Ganetis</a>	Wrong Ramp sequence used.				
25-Apr	PR-191	1	10a-ps3.A	I think this blue Quench Link Interlock was due to p.s. b19-q7-ps trying to turn on and then tripping back to STBY again because of a problem with its aux contacts for ON status. We will put this on our maintenance list to be fixed. <a href="#">Don Bruno</a>	Power Supply Auxiliary Contact On status fail, b19-q7.				
27-Apr	PR-192	1	6b-ps1	yellow quench link trip was caused by 6b-qd2 quench detector. The quench detector tripped because of a real bus quench at Y5QFQ6_4VT. The beam permit tripped before the quench link when y05-rot2.3 rotator tripped. The bus quenched due to warm gas from the y05-rot3-2.3 quench. <a href="#">Ganetis</a>	Warm Gas caused by Rotator Quench	<b>Y5QFQ6_4VT Buss</b>		<b>1</b>	

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28-Apr	PR-193	1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped .009 sec. before the quench link. There was one real quench at y8q2. There was low to moderate beam losses for seconds at g8-lm.1. There is now 52 beam induced quenches for this run. What are the thresholds for the blms for the triplets? Are they too high? <a href="#">Ganetis</a>	Beam Induce Quench #052	y8q2	1	1
28-Apr	PR-194	1	8b-ps1	yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped .009 sec. before the quench link. There was one real quench at y8q2. There was low to moderate beam losses for seconds at g8-lm.1. There is now 53 beam induced quenches for this run. What are the thresholds for the blms for the triplets? Are they too high? <a href="#">Ganetis</a>	Beam Induce Quench #053	y8q2	1	1
29-Apr	PR-195	1	10a-ps3.A	An AC reset was required for cfe-3b-ps1 because communication (no Heartbeat) could be established. Resetting caused both links to trip. Supplies had been at Injection Currents at the time of the Quench Link drop. <a href="#">G. Heppner</a>	AC Reset for cfe-3b-ps1			
29-Apr	PR-196	1	12a-ps1.A	An AC reset was required for cfe-3b-ps1 because communication (no Heartbeat) could be established. Resetting caused both links to trip. Supplies had been at Injection Currents at the time of the Quench Link drop. <a href="#">G. Heppner</a>	AC Reset for cfe-3b-ps1			
29-Apr	PR-197	1	2b-ps1	FitReader indicated that a reset had been done to the 2b-qd1 at 12:06:23 and then 2b-qd2 had been reset at 12:06:33. This would cause the DX Heaters to fire in Blue. Timestamps for the permit fail corresponds with FitReader. Not charged against quench detectors because this was scheduled and done during the maintenance period. <a href="#">G. Heppner</a>	Scheduled Maintenance 4 Hours			
29-Apr	PR-198	1	2b-ps1	FitReader indicated that a reset had been done to the 2b-qd1 at 12:06:23 and then 2b-qd2 had been reset at 12:06:33. This would cause the DX Heaters to fire in Blue. Timestamps for the permit fail corresponds with FitReader. Not charged against quench detectors because this was scheduled and done during the maintenance period. <a href="#">G. Heppner</a>	Scheduled Maintenance 4 Hours			
29-Apr	PR-199	1	4b-time.B	Testing of Fast Ramps for High Energy Gold Run for next year. The coefficients for the ramps had to be changed as they are currently set for the Polarized Proton Run! Not a real quench. <a href="#">G. Heppner</a>	Scheduled Maintenance 4 Hours			
29-Apr	PR-200	1	4b-time.B	Testing of Fast Ramps for High Energy Gold Run for next year. The coefficients for the ramps had to be changed as they are currently set for the Polarized Proton Run! Not a real quench. <a href="#">G. Heppner</a>	Scheduled Maintenance 4 Hours			
Total Counts:		16	28				9	20
Total Quench Events:		44						
Beam Induced Quenches:		9						
Real Magnet Quenches:		20						

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Date:	Reference ID	B	Y	QLI	Technical Notes	Causes and Repairs	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-May	PR-201		1	5b-ps1	Yellow quench link trip was caused by the 5b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y4QDA6_A7VT (y4q15). The beam permit tripped prior to the quench link by 0.028seconds. There were multiple losses of beam (see above) that also caused real magnet quenches to occur at y7q15 and y12q7 for a total of three real magnet quenches. There are now 54 beam induced quenches for this run. <a href="#">G. Heppner</a>	<b>Beam Induced Quench #054</b>	y4q15, y7q15, y12q7	1	3
3-May	PR-202		1	8b-ps1	y8-q6-ps housekeeping p.s. fuses blew bringing down the yellow link. <a href="#">Don Bruno</a>	HKPS Fuses			
3-May	PR-203	1		10a-ps3.A	QLI was caused by the replacement of a current regulator card for b9-qd2-ps. As the Corrector Team needed ring access as per MCR request for Alcove 1B, time was permitted to view this problem. Tap test on the Current Reg Card showed slight movements in the Iref at 2 amps. Switched the card and the new one is solid. Returned card to shop where there appears to be an internal problem with one of the lands to Relay pins. <a href="#">G. Heppner</a>	Current Reg Card			
3-May	PR-204	1		4b-time.B	Both Blue and Yellow Links tripped at the same time. Verified that a power dip had occurred at 22:17:16 as multiple 280 line voltage monitors indicated a dip from 300vac down to 196vac for approximately 0.10 seconds. Since the power supplies are not on UPS systems, this was the cause of the quench events. <a href="#">G. Heppner</a>	Power Dip			
3-May	PR-205		1	4b-time.B	Both Blue and Yellow Links tripped at the same time. Verified that a power dip had occurred at 22:17:16 as multiple 280 line voltage monitors indicated a dip from 300vac down to 196vac for approximately 0.10 seconds. Since the power supplies are not on UPS systems, this was the cause of the quench events. <a href="#">G. Heppner</a>	Power Dip			
3-May	PR-206		1	10a-ps3.B	The quench link trip was caused by the Yellow 6KA Quench Protection Switch located in 1010A. TAPE had been run to recover the previous quench event from the power dip. The Yellow 6KA Switch was sequenced through to the Ready Position before a user invoked cancel had been issued. The user cancel was issued due to a qdprocess.8b-qd2 Tripped fault. The Recovery program was run again from the beginning and issued an off command to the Yellow 6KA causing the 10a-ps3.B to trip the link. <a href="#">G. Heppner</a>	Counters = Other. TAPE Program does not know when 6KA switches are already in the Ready State.			
3-May	PR-207	1		10a-ps3.B	The quench link trip was caused by the Blue 6KA Quench Protection Switch located in 1010A. TAPE had been run to recover the previous quench event from the power dip. The Blue 6KA Switch was sequenced through to the Ready Position before a user invoked cancel had been issued. The user cancel was issued due to b4-q4 not on. The Recovery program was run again from the beginning and issued an off command to the Blue 6KA causing the 10a-ps3.B to trip the link. <a href="#">G. Heppner</a>	Counters = Other. TAPE Program does not know when 6KA switches are already in the Ready State.			
4-May	PR-208		1	8b-ps1	Strange, but there is no TAPE message Log of the Link being restored as of the last quench event, PR-206, 10a-ps3.B whereas the 2nd attempt = Timestamp = 23:47:58, qdprocess.8b-qd2, shows a User Invoked Cancel. The 3rd attempt was started at 01:14:52. This attempt followed through to the PS On Checks completing the recovery at 01:24:33, Yellow Link is up. Y08-qd1-qpA Fan Fault required two fan switches to be replaced. <a href="#">G. Heppner</a>	Y08-qd1-qpA, Fan Fault (Two Switches Replaced)			
4-May	PR-209	1		10a-ps3.B	The quench link trip was caused by the Blue 6KA Quench Protection Switch located in 1010A. TAPE indicates a problem, see 5th attempt above. No action taken, the 6th attempt was completed, bringing the Blue Link back up. <a href="#">G. Heppner</a>	QPA Faults. B9DQPSW failed to Reset, causing an error.			
7-May	PR-210	1		8b-ps1	Blue quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because of a sudden jump in current on bo7-qf2-ps. The reference jumped to full current and the power supply tried to follow. <a href="#">Ganetis</a>	Power Supply bo7-qf2-ps			
11-May	PR-211	1		7b-ps1	Both blue and yellow link trips were caused by the down ramps going to fast. The wrong slow factor was used. This should be controlled by the WFG manager and this should not have happened. Someone from controls should look into this. <a href="#">Ganetis</a>	Wrong Ramp Factor used, Operator/Controls.			
11-May	PR-212		1	9b-ps1	Both blue and yellow link trips were caused by the down ramps going to fast. The wrong slow factor was used. This should be controlled by the WFG manager and this should not have happened. Someone from controls should look into this. <a href="#">Ganetis</a>	Wrong Ramp Factor used, Operator/Controls.			
11-May	PR-213	1		2b-ps1	Blue link trip was caused by bo2-qf2-ps. This p.s. had an error and AC phase faults. It looks like these faults happened when the p.s. was turned on. There also was a problem when turning on the blue main quad p.s. <a href="#">Ganetis</a> Wing informs us that if the recovery script has been in an out of sequence state during the rerun of the script. He brought the link down and started the sequence again. <a href="#">MCR</a>	Tape Sequence Out of Order, Operator/Controls			
12-May	PR-214	1		8b-ps1	blue quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because the Iref. for bo7-qf2-ps jumped up to full current. The beam permit tripped .018 sec. before the quench link due to beam loss. There were two real magnet quenches at b7q3 and b8q3. There were high beam losses at b7-lm3.1 and b8-lm3.1. The beam loss was due to the p.s. sudden change in current. The fiber optic interface card should be replaced. <a href="#">Ganetis</a>	<b>Power Supply Induced Quench</b>	b7q3, b8q3		2
12-May	PR-215	1		8b-ps1	Called MCR that I wanted to replace the fiber optics card as I saw this same problem and sequence of events that had occurred on Friday May 7, reference to PR-210. At that time they decided to recover and continue without further investigation. However, they had already commenced bringing up the Link and it was decided to complete the recovery and then ramp down to zero so the Fiber Optics card could be replaced. <a href="#">G. Heppner</a>	Replacement of bo7-qf2-ps Fiber Optics Card.			



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12-May	PR-216	1	10a-ps3.A	: bi9-qf1-ps was manually tripped to Off to bring down the link because TAPE had already been started and halted due to the following sequence of events. Bo7-qf2-ps Fiber Optics card was replaced and permission to bring the link up was given. In the process, bi5-tq4-ps would not recover. TAPE was halted once again, the AC Adapter that plugs into the Surge Protector was intermittent causing the QPA to lose power, replaced adapter. Permission to continue with bringing up the link, bi9-tq6-qps developed an OVC Fault that could not be reset. Replaced the QPA. So, since TAPE now had to be restated, the link was pulled to start from the beginning. Note: Temperature in the service buildings was warm. <a href="#">G. Heppner</a>	(Other) Manual Trip of bi9-qf1-ps to restart TAPE.			
Total Counts:		10	6				1	5
Total Quench Events:		16						
Beam Induced Quenches:		1						
Real Magnet Quenches:		5						